**Guidelines for reducing Noise Pollution created by elevated roads/ flyovers and elevated rail network.**

**GOVERNMENT OF MAHARASHTRA**
**Urban Development Department**
**Mantralaya, Mumbai 400 032.**

**Date: 3rd December, 2008.**

**CIRCULAR**

**No. TPB 4308/4011/CR-343/08/UD-11: Elevated roads going through congested habitation create noise/dust pollution for the inhabitants of buildings situated near such roads. MSRDC, in past has constructed many flyovers which pass through congested habitation. MMRDA under MUTP, a World Bank Project has undertaken many projects relating to rail and road infrastructure. MMRDA has also constructed many trunk /arterial roads. However, adequate noise control measures have not been taken for these traffic projects. Many countries have prescribed guidelines for the detailed design of road side noise barriers. It is therefore necessary to implement noise abatement measures to reduce noise from existing and proposed elevated roads and flyovers. The road side noise barriers are in general considered, as direct technical remedies. While the onus of mitigating road traffic noise lies with the road projects providers, noise barriers are considered the most reasonable noise mitigation measures available.**

**Hence, Govt. has decided to implement noise abatement measures to reduce noise from elevated roads and flyovers. All the authorities shall follow following guidelines.**

1) **The roadside noise barrier shall be provided if the flyovers or elevated roads and elevated rail network passes through congested localities and the distance between opening in the building and parapet of such traffic works is less than 30 mt.**

2) **Noise barriers will need to be considered from both acoustic and non acoustic aspects. The acoustic design aspects include barrier material, barrier locations, dimensions and shapes. The non acoustic aspects include aspects such as structural integrity, safety, aesthetics and reduction of potential negative effects of noise barriers.**

3) **Noise barriers should be such that it will shield receivers from the noise generated by road traffic in excess of acceptable noise level of 60 db for roads with two or more lanes fronting on residential area, 65 db for roads fronting on areas on mixed uses and 70 db for arterial and trunk roads. However, for arterial and trunk roads, the noise barriers should be capable of traffic in excess of acceptable noise level of 70 db, regardless of the land use on either side of the road.**

4) The noise barriers may be in the form of vertical and crank top barriers, semi-enclosures, full enclosures and deck over.

5) A material that has a Transmission Loss (TL) of 33 db or greater shall be provided. Similarly the material surface density shall be less than 10 kg/sq.mt.

6) In the design of noise barriers, sound "leaks" due to holes, slits, cracks or gaps through or beneath a noise barrier shall be avoided. Therefore to avoid reduction in acoustic performance of noise barriers, recess should be formed along the barrier to accommodate the street furniture as far as possible.

7) In general the following materials could be used:-
   (i) Steel
   (ii) Aluminum
   (iii) Polycarbonate or acrylic sheets
   (iv) Concrete, brick or glass fiber reinforced concrete
   (v) Proprietary made acoustic panels

8) Noise barriers shall not be closer than 4.5 mt. from carriage way to protect it from the impact of errant vehicles. If the space is limited say less than 1.5 mt. untentioned corrugated beam barriers or concrete profile barrier can be integrated with the noise barrier.

9) The material used shall have adequate fire resistance and a length of atleast 4 mt. made of non combustible elements shall be insisted in every 100 mt. of noise barriers. Emergency access/ exist points are also required to assist evacuation.

10) If barriers are in the form of enclosure, it should be uniform and avoid glare and flider effects.

11) The barriers shall not affect aesthetical perception of both road users and residents. It should be properly blend into the local environment. It should also integrated and co-ordinated with the street furniture.

12) As far as possible the tall sound barriers shall be avoided. Generally the height of barriers shall not be more than 3 mt. Cantilever barriers may be built instead of very tall barrier.

13) Noise barriers should be designed so that they require minimal maintenance other than cleaning. Proper access should be provided for future maintenance.

14) Adequate ventilation shall be provided if barrier structure is an enclosure.

15) Noise barriers should form an integral part of road design.

The above guidelines shall be strictly followed by MSRDC, MMRDA, PWD and other agencies engaged in construction of flyovers, elevated roads and elevated rail network.

By order and in the name of Governor of Maharashtra,

(Sudhakar Nangnure)
Deputy Secretary to Government.

To

1) The Metropolitan Commissioner, Mumbai Metropolitan Region Development Authority, Bandra-Kurla Complex, Bandra (E), Mumbai.
2) The Managing Director, CIDCO, Nirmal Bhavan, Nariman Point, Mumbai.
3) The Secretary (Roads), Public Works Department, Mantralaya, Mumbai.
4) The Secretary, Environment Department, Mantralaya, Mumbai.
5) The Member Secretary, Maharashra Pollution Control Board, Kalpataru Point, 3rd & 4th floor, Sion Matunga Scheme Road No.8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai 400 022.
6) Director, Municipal Administration, Andheri (W), Mumbai.
7) Director of Town Planning, Maharashtra State, Pune.
8) All Municipal Commissioners, Municipal Corporation .....
9) Chief Engineer, Public Works Department, Mantralaya, Mumbai.
10) Chief Engineer, Maharashtra State Road Development Corpn. Mumbai.
11) Chief, Transport & Communication Division, Mumbai Metropolitan Region Development Authority, Bandra (E), Mumbai.
12) Chief Engineer (DP), Municipal Corpn. of Gr. Mumbai, Mumbai.
13) Chief, Western Railway/ Central Railway, Mumbai.
14) Dy. Secretary (TP), Urban Development Department, Mantralaya, Mumbai.

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